Watershed Protection: A Project Focus
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Office of Water

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Executive Summary

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The Watershed Protection Approach is a strategy for effectively protecting and restoring aquatic ecosystems and protecting human health. This strategy has as its premise that many water quality and ecosystem problems are best solved at the watershed level rather than at the individual water body or discharger level. The Watershed Protection Approach has four major features: targeting priority problems, a high level of stakeholder involvement, integrated solutions that make use of the expertise and authority of multiple agencies, and measuring success through monitoring and other data gathering.

The Watershed Protection Approach accommodates the management and protection of ecosystems and human health at three levels: the state, the basin, and the watersheds within each basin. Some issues are best addressed at the watershed level, such as controlling nutrient loading to small lakes or restoring headwaters riparian habitat quality. Other issues may be best addressed at the basin level, such as phosphate detergent bans, wetlands mitigation banking, or nutrient trading. Still other activities and solutions are best implemented at the state level, including policies on toxics control or the operation of permit programs.

This document focuses on individual watershed projects. Watershed projects can be important components of the statewide approach that many state water quality programs use. These states have organized their traditional activities, such as permitting, planning, and monitoring, so that all water quality problems are dealt with in the context of very large drainage areas (river basins). Typically, each basin is studied, and a watershed plan developed, on a 5-yearcycle. A companion document, *Watershed Protection: A Statewide Approach* (EPA1995)discusses this way of doing business.

The EPA Office of Water prepared *Watershed Protection: A Project Focus* to promote watershed-level planning as envisioned under the Watershed Protection Approach. The document describes a logical process for planning and implementing watershed projects and presents some lessons learned in previous projects. The document emphasizes ecological integrity in watersheds by addressing chemical, physical, biological and habitat stressors in addition to the more traditional goal of protecting human health through chemical water quality criteria. It also encourages the targeting of watersheds for action and pooling resources and expertise with other government agencies and citizen groups.

Why Implement Watershed Projects?

Watershed projects promote understanding of the full range of stressors in a watershed—physical, chemical, and biological—that may be affecting aquatic life and human health. When all significant sources and stressors are understood, agencies are better able to focus on those controls that are more likely to produce measurable improvements in ecosystem health.

Administratively, watershed projects can be highly efficient. They encourage organizations to focus staff and financial resources on prioritized geographic locations and facilitate coordination of resources among interested parties. Also, they provide local agencies with an opportunity to take leadership roles in ecosystem protection.

Individual watershed projects can supply critical information to a state's major river basin plans, for example, as new models are developed and new watershed-level management approaches are tested.

Finally, watershed projects encourage local agencies and citizen groups to get involved—either by participating in state or federal projects or by starting their own watershed projects.

Who are the Stakeholders in a Watershed Project?

Stakeholders are individuals and organizations that have an interest in identifying and solving water quality problems and in monitoring the effectiveness of these solutions over time. Stakeholders of a single watershed project could include:

Municipal and county governments

Local councils of government

Local soil and water conservation commissions or districts

County boards of commissioners

Individual citizens

Local and national citizen action groups

Local industries

Water suppliers

State surface and ground water agencies

State agricultural, fisheries, and natural resources agencies

Indian Tribes and communities

Federal agencies

Local stakeholders are particularly important in targeting their local problems. They bring knowledge and concern for specific water bodies to the forefront. They serve as organizers in the area and keep interest alive and active. They are also effective in educating friends, neighbors, and government officials and putting action on the local, near-term agenda.

Are Watershed Projects Suitable where Ground Water Contamination is a Major Concern?

Ground water concerns are important in no point source watershed projects around the country. The Clean Water Act discourages no point source controls that protect surface waters at the expense of ground water. Watershed projects can be a good mechanism for taking into account all possible impacts on surface and ground water resources.

In some areas, ground water/surface water interactions are highly complex and may alter or preclude the delineation of watershed boundaries. For example, in karstland (limestone and dolomite terrain with sinkholes, subsurface streams, and caverns), ground water may discharge well beyond apparent watershed boundaries that are based on topography. Similarly, glaciated areas in the Northern United States and highly arid areas in the Southwest can have complex surface/ground water hydrology.

In such areas, agencies should carefully consider whether planning units should be watersheds (perhaps large watersheds) or administrative u nits such as counties or regions. In some cases, a dual approach with separate surface and subsurface water resource delineations may be appropriate. Ground water/surface water interactions should be understood and factored into all aspects of a watershed project.

What are the Elements of a Successful Watershed Project?

Most of this document discusses concepts and a logical framework for planning and implementing a watershed project. The many activities of a successful project can be divided into major topics or elements:

Building a Project Team and Public Support—developing effective institutional arrangements and ownership of the project by stakeholders (Chapter 4)

Defining the Problem—developing an inventory of the watershed and its problems and conducting baseline monitoring (Chapter 5)

Setting Goals and Identifying Solutions—developing project goals, a list of management measures, and a detailed plan for their implementation (Chapter 6)

Implementing Controls—obtaining funding, securing commitments, and installing controls (Chapter 7)

Measuring Success and Making Adjustments—documenting success in meeting goals, monitoring, changing management measures as needed, and ensuring project continuity (Chapter 8).